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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/579,276	05/25/2000	William D. Frazer	10992233	7054

22878 7590 06/06/2003

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EXAMINER

EL SHAMMAA, MARY A

ART UNIT PAPER NUMBER

2881

DATE MAILED: 06/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/579,276

Applicant(s)

FRAZER ET AL.

Examiner

Mary A. El-Shammaa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☒ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 04 March 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 9, 10, 13-18, 20, 23-29, 31, 32, 35-40, 42, and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Whitehouse et al. (6,040,575).

Regarding claims 1, 23, and 44, Whitehouse et al. discloses in Figs. 1-3 a method and apparatus for delivering ions to a vacuum chamber (3, 4, 5, 6) comprising an enclosed ionization chamber including an ionization region and a vacuum interface at a vacuum interface voltage, wherein the vacuum interface allows the ionization chamber (3, 4, 5) to communicate with the vacuum chamber (6); an electrospray assembly (2) at approximately ground potential having a dispensing end (30, 35) disposed within the ionization chamber; a first electrode (41) disposed sufficiently close to the dispensing end at a first electrode voltage of sufficiently high magnitude to form ions in the ionization region and to attract the ions from the ionization region; a second electrode (42) disposed in the ionization chamber at a second electrode voltage that repels the ion to a greater degree than the first electrode voltage; and a means for generating a gaseous stream in a gas flow path extending from the first electrode to the second electrode, wherein the gaseous stream provides the ion with sufficient velocity to overcome repulsion by the second electrode,

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wherein the vacuum interface voltage is more attractive to the ion than the second electrode voltage (Col. 13, Lines 14-66; Col. 14, Lines 2-36; Col. 15, Line 53 through Col. 16, Line 9).

Regarding claims 2-5 and 24-27, Whitehouse et al. discloses the first and second electrodes (41, 42) having flat apertures (43, 44) substantially parallel to one another, wherein the gas flow path is substantially orthogonal to the flat surfaces of the electrodes (Col. 13, Lines 32-38, 63-66; Col. 14, Lines 13-17).

Regarding claims 6, 7, 9, 28, 29, and 31, Whitehouse et al. discloses that the vacuum interface, comprising an aperture, communicates with the gas flow path in an orthogonal manner (See Figure 1).

Regarding claims 10, 13, 32, and 35, Whitehouse et al. discloses the vacuum interface comprising a conduit (35) having an axial bore (36) having a diameter of capillary dimension (Col. 13, Lines 24-29).

Regarding claims 14 and 36, Whitehouse et al. discloses the means for generating a gaseous stream representing a component of the electrospray assembly (Col. 13, Lines 21-24).

Regarding claims 15-18 and 37-40, Whitehouse et al. discloses the first and second electrodes having opposite polarity, wherein the first electrode can be either positive or negative, and the interface voltage is at ground (Col. 13, Lines 53-57; Col. 14, Lines 33-36; Col. 16, Lines 35-38).

Regarding claims 20 and 42, Whitehouse et al. discloses the ionization chamber being at approximately atmospheric pressure (Col. 12, Lines 23-32).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 21, 22, 30 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehouse et al.

Regarding claims 8, 21, 22, 30, and 43, Whitehouse et al. discloses the claimed invention except for the first electrode, the second electrode, or both comprising a mesh portion.

According to the specification, a scupper is defined as a mesh portion or solid metal; therefore a mesh electrode can be understood as a scupper (See page 14, lines 7-17 of the specification). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a mesh portion in either of the electrodes because Whitehouse et al. teaches of a meshed electrodes (**11, 13**), since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art (Col. 13, Lines 39-43). In re Einstein, 8 USPQ 167.

Regarding claims 11, 12, 33, and 34, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a metallic conduit or an electrically insulating conduit, because conduits made of variable materials, including metallic materials and electrically insulating materials, are well known in the art.

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Regarding claims 19 and 41, it would have been obvious to one having ordinary skill in the art at the time the invention was made to electrically connect the ionization chamber to the electrospray chamber because electrically connected chambers are well known in the art.

Response to Arguments

Applicant's arguments with respect to claims 1-44 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (6,33,632), (5,070,240).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary A. El-Shammaa whose telephone number is 703.308.0851. The examiner can normally be reached on M-F (8:30am-5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on 703.308.4116. The fax phone numbers for the organization where this application or proceeding is assigned are 703.872.9318 for regular communications and 703.872.9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.872.9317.

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June 2, 2003


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800